CLAIMS

WHAT IS CLAIMED IS:

1.   An isolated stem cell, which is isolated by a method, comprising selecting the stem cell based on the stem cell exhibiting a CXCR4 receptor, demonstrating an affinity for the chemokine SDF-1, or both.

2.   The isolated stem cell of claim 1, wherein said isolated stem cell exhibits markers characteristic of a precursor for astrocytic differentiated stem cells.

3.   The isolated stem cell of claim 2, wherein said isolated stem cell exhibits an A2B5 astrocytic precursor marker.

4.   The isolated stem cell of claim 2, wherein said isolated stem cell exhibits a glial fibrillary acidic protein (GFAP) astrocytic precursor marker.

5.   The isolated stem cell of claim 1, wherein said isolated stem cell comprises a heterologous gene.

6.   The isolated stem cell of claim 5, wherein said heterologous gene encodes a polypeptide of therapeutic use in the treatment of a disease condition.

7.   The isolated stem cell of claim 6, wherein said polypeptide is cytotoxic.

8.   The isolated stem cell of claim 6, wherein said polypeptide is involved in an immune response.

9.   The isolated stem cell of claim 8, wherein said polypeptide is IL-12.

10.   The isolated stem cell of claim 8, wherein said polypeptide is IL-4.

11.   The isolated stem cell of claim 8, wherein said polypeptide is tumor necrosis factor-related apoptosis-inducing ligand (TRAIL).

12.   The isolated stem cell of claim 1, wherein said isolated stem cell is a neural
       stem cell (NSC).

13.   A method for assessing tumor tropic potential of a stem cell, comprising:
           providing a stem cell;
           determining an expression level of CXCR4 by the stem cell, an affinity
       by the stem cell for the chemokine SDF-1, or both; and
           assessing tumor tropic potential of the stem cell based upon said
       expression level of CXCR4, said affinity for the chemokine SDF-1, or both.

14.   The method of claim 13, wherein said stem cell exhibits markers characteristic
       of a precursor for astrocytic differentiated stem cells.

14.   The method of claim 14, wherein said stem cell exhibits an A2B5 astrocytic
       precursor marker.

16.   The method of claim 14, wherein said stem cell exhibits a glial fibrillary acidic
       protein (GFAP) astrocytic precursor marker.

17.   The method of claim 14, wherein said stem cell is a neural stem cell (NSC).

18.   A method for treating a disease condition in a mammal, comprising:
           providing a stem cell that exhibits a CXCR4 receptor, that
       demonstrates an affinity for the chemokine SDF-1, or both; and
           administering said stem cell to said mammal in an amount sufficient to
       treat said disease condition.

19.   The method of claim 18, wherein said stem cell is an astrocytic progenitor
       cell.

20.   The method of claim 18, wherein said stem cell exhibits markers characteristic
       of a precursor for astrocytic differentiated stem cells.

21.   The method of claim 18, wherein said stem cell exhibits an A2B5 astrocytic precursor marker.

22.   The method of claim 18, wherein said stem cell exhibits a glial fibrillary acidic protein (GFAP) astrocytic precursor marker.

23.   The method of claim 18, wherein said stem cell comprises a heterologous gene.

24.   The method of claim 23, wherein said heterologous gene encodes a polypeptide of therapeutic use in the treatment of said disease condition.

25.   The method of claim 24, wherein said polypeptide is cytotoxic.

26.   The method of claim 24, wherein said polypeptide is involved in an immune response.

27.   The method of claim 26, wherein said polypeptide is IL-12.

28.   The method of claim 26, wherein said polypeptide is IL-4.

29.   The method of claim 26, wherein said polypeptide is tumor necrosis factor related apoptosis-inducing ligand (TRAIL).

30.   The method of claim 18, wherein the disease condition is selected from the group consisting of breast cancer, colon cancer, lung cancer, prostate cancer, hepatocellular cancer, gastric cancer, pancreatic cancer, cervical cancer, ovarian cancer, liver cancer, bladder cancer, cancer of the urinary tract, thyroid cancer, renal cancer, carcinoma, melanoma, head and neck cancer, astrocytomas, ependymal tumors, glioblastoma multiforme, and primitive neuroectodermal tumors.

31. The method of claim 18, wherein administering said stem cells further comprises administering said stem cells in a composition further comprising an additional component selected from the group consisting of a vehicle, an additive, a pharmaceutical adjunct, a therapeutic compound, a carrier, agents useful in the treatment of disease conditions, and combinations thereof.

32. The method of claim 18, further comprising administering a volume of the chemokine SDF-1 to said mammal.

33. The method of claim 18, wherein said stem cell is a neural stem cell (NSC).

34. A kit comprising:
     a volume of stem cells that exhibit a CXCR4 receptor, the demonstrate an affinity for the chemokine SDF-1, or both; and
     instructions for the use of said volume of stem cells in the treatment of a disease condition in a mammal.

35. The kit of claim 34, wherein said volume of stem cells are included in a composition that further comprises an additional component selected from the group consisting of a vehicle, an additive, a pharmaceutical adjunct, a therapeutic compound, a carrier, agents useful in the treatment of disease conditions, and combinations thereof.

36. The kit of claim 34, wherein the disease condition is selected from the group consisting of breast cancer, colon cancer, lung cancer, prostate cancer, hepatocellular cancer, gastric cancer, pancreatic cancer, cervical cancer, ovarian cancer, liver cancer, bladder cancer, cancer of the urinary tract, thyroid cancer, renal cancer, carcinoma, melanoma, head and neck cancer, astrocytomas, ependymal tumors, glioblastoma multiforme, and primitive neuroectodermal tumors.

37. The kit of claim 34, wherein said stem cell is a neural stem cell (NSC).

38.   The kit of claim 34, further comprising a volume of the chemokine SDF-1, and instructions for the use of said volume of the chemokine SDF-1 in the treatment of the disease condition.